What is claimed is:

1. A method for characterizing a vehicle's fuel efficiency comprising the steps of:

generating data from the vehicle that comprises at least one of the following: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system; and

analyzing the data with the host computer system to determine the vehicle's fuel efficiency.

2. The method of claim 1, wherein the generating and transferring steps are performed at a first time interval, and the transmitting and analyzing steps are performed at a second time interval.

3. The method of claim 1, further comprising the step of, following the transferring step, processing at least one of the following properties from the data set: vehicle speed, odometer calculation, engine speed, load, mass air flow.

Sub A2

4. The method of claim 3, wherein the processing step further includes summing at least one of the properties from the data set or a property derived thereof to yield a summed property.

5. The method of claim 4, wherein the processing step further includes multiplying the summed property by a time interval.

6. The method of claim 4, wherein the processing step further includes multiplying a property from the data set by a time interval prior to summing.

7. The method of claim 3, wherein the property summed is at least one of mass air flow, load, and load times engine speed.

8. The method of claim 3, wherein the property summed is at least one of mass air flow, load, and load times engine speed multiplied by a time interval.

9. The method of claim 3, wherein the summing step is performed using the microchip comprised by the wireless appliance.

10. The method of claim 9, wherein the summing step is performed prior to the transmitting step.

11. The method of claim 7, wherein the property summed is mass air flow, and the analyzing step further comprises processing the summed mass air flow to determine an amount of fuel consumed.

12. The method of claim 7, wherein the property summed is mass air flow multiplied by a time interval, and the analyzing step further comprises processing the summed mass air flow times a time interval to determine an amount of fuel consumed.

11 13. The method of claim 5, wherein the mass air flow or a product thereof is summed to generate an integrated mass air flow.

Sub A3

14. The method of claim 13, wherein the analyzing step further comprises processing the integrated mass air flow to determine an amount of fuel consumed.

15. The method of claim 14, wherein the analyzing step further includes:

i) dividing the integrated mass air flow by an air/fuel ratio; and

ii) dividing the results from step i) by a density of fuel to determine an amount of fuel consumed.

16. The method of claim 15, wherein the analyzing step further comprises processing the amount of fuel consumed to determine fuel efficiency.

17. The method of claim 16, wherein the analyzing step further comprises dividing the amount of fuel consumed by a distance driven to determine fuel efficiency.

18. The method of claim 1, wherein the data is at least one of load, load times engine speed, load multiplied by a time interval, or load times engine speed multiplied by a time interval, and the analyzing step further comprises processing the data to determine an amount of fuel consumed.

19. The method of claim 18, wherein the load, load times engine speed, or a product thereof is summed to generate an integrated value.

20. The method of claim 19, wherein the analyzing step further comprises processing the integrated value to determine an amount of fuel consumed.

21. The method of claim 20, wherein the analyzing step further comprises multiplying the integrated value with a linear value to determine an integrated synthetic mass air flow.

22. The method of claim 21, wherein the analyzing step further includes:

i) dividing the integrated synthetic mass air flow by an air/fuel ratio; and

ii) dividing the results from step i) by a density of fuel to determine an amount of fuel consumed.

23. The method of claim 22, wherein the analyzing step further comprises processing the amount of fuel consumed to determine fuel efficiency.

24. The method of claim 23, wherein the analyzing step further comprises dividing the amount of fuel consumed by a distance driven to determine fuel efficiency.

25. The method of claim 1, wherein the analysis step further comprises processing the vehicle's fuel efficiency to determine a secondary property of the vehicle.

24 23

26. The method of claim 25, wherein the secondary property of the vehicle is one of tire pressure, status of a fuel-injection system, or fuel quality.

Sub A4

27. The method of claim 1, wherein the method further includes comparing the vehicle's fuel efficiency to a pre-determined parameter.

28. The method of claim 27, further comprising a sending step wherein the vehicle's fuel efficiency or a property derived from the fuel efficiency is sent to a user.

29. The method of claim 28, wherein the sending step further comprises sending an electronic text, data, or voice message to a computer, cellular telephone, or wireless device.

30. The method of claim 29, wherein the electronic text, data, or voice message describes the vehicle's fuel efficiency.

31. The method of claim 1, further including the step of displaying the data on a web site.

32. The method of claim 1, further including the step of displaying fuel efficiency on a web site.

33. The method of claim 1, wherein the transferring step further includes serially transferring the data through an OBD-II connector or equivalent thereof in the vehicle to the wireless appliance.

34. A method for characterizing a vehicle's tire pressure comprising the steps of:

generating data from the vehicle that comprises at least one of the following: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system;

analyzing the data with the host computer system to determine the vehicle's fuel efficiency; and

processing the vehicle's fuel efficiency to estimate a tire pressure value.

35. A method for characterizing a vehicle's fuel-injection system comprising the steps of:

generating data from the vehicle that comprises at least one of the following: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system;

analyzing the data with the host computer system to determine the vehicle's fuel efficiency; and

processing the vehicle's fuel efficiency to characterize the vehicle's fuel-injection system.

36. A method for characterizing a an amount of fuel consumed by a vehicle comprising the steps of:

generating data from the vehicle that comprises at least one of the following: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system; and

analyzing the data with the host computer system to determine the amount of fuel consumed by a vehicle.

37. A method for characterizing a vehicle's fuel efficiency comprising the steps of:

generating data from the vehicle;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system; and

analyzing the data with the host computer system to determine the vehicle's fuel efficiency.

38. A method for characterizing the amount of fuel consumed by a vehicle comprising the steps of:

generating data from the vehicle;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

transmitting a data packet comprising the data and/or properties calculated from the data with the wireless transmitter over an airlink to a host computer system; and

analyzing the data with the host computer system to determine the amount of fuel consumed by the vehicle.